Project title: Follow up activities to support the dissemination and implementation of the RITC-funded smoking cessation intervention for disadvantaged pregnant women.

Updated Final Technical Report to RITC (submitted in March 2011)

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Research Institution: Chronic Diseases of Lifestyle Initiative in Africa (CDIA), Department of Medicine, University of Cape Town.

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BACKGROUND

Up until 2008/2009, RITC supported a research study involving the development and evaluation of a smoking cessation intervention for disadvantaged, pregnant women in South Africa (Project reference number 0017260256). This project was based at the Medical Research Council (MRC) in Cape Town.

In 2010, RITC supported a further proposal for follow up advocacy work and dissemination of the findings relating to the Smoking in Pregnancy project. This work was to be undertaken by myself, as the principal investigator of the project. By this time, I had left the MRC and was employed by the Chronic Diseases Initiative in Africa (CDIA), which is based in the Department of Medicine at the University of Cape Town (UCT).

This advocacy work resulted in the Department of Health in the Western Cape Province agreeing to pilot an intervention, modelled on the smoking cessation intervention, but adapted to address multiple risk behaviours during pregnancy, in two further clinics in the province. The objective of the pilot was to evaluate the feasibility of integrating an intervention for pregnant women, addressing smoking, alcohol and drug use, as well as depression into routine antenatal care. This extended the follow up work relating to the project, originally intended to take place in 2010, into 2011.

Due to delays in the pilot project’s implementation, permission was requested from RITC in March 2011 for unspent funds to be carried over beyond the stipulated period of 2010 into 2011.

The reason for the unspent funding at this time was because the process of consultation and obtaining permission and approval from structures in the Dept of Health took far longer than anticipated. This delayed the training, materials development and delivery of the intervention. The Deputy Directors of Health Promotion and Mental Health in the Dept of Health took leadership of the project and the time they had available to work on the project, given their numerous other activities, also determined the pace of the project.

Permission was granted by RITC for continued use of the remaining funding for a further 6 months. However, these remaining funds were used from April right up until December 2011, when a final few payments were made from the account. The project funding is now down to zero, as is reflected in the financial report submitted with this narrative report.

A final narrative report was submitted to RITC at the end of March 2011. This report covered the period 31 March 2010, when the funding was received by UCT, until 31 March 2011. This updated report adds project activities for the period of April to December 2011.
Project rationale

The RITC-funded Smoking during Pregnancy Project was the only smoking cessation intervention of its kind in South Africa, and possibly in the developing world. The evaluation of its impact showed it to be effective and very well accepted by both pregnant women and midwives. This made the dissemination of the study’s findings, as well the exposure of the intervention model, materials and tools to other colleagues and organisations in the field of increased importance.

The findings of the study were presented to a number of forums in the course of 2009. The Western Cape, Provincial Department of Health showed a strong interest in disseminating the intervention to antenatal clinics in the Western Cape. They were however, concerned to extend the scope of the smoking cessation intervention to include other risk behaviours during pregnancy, such as drugs, alcohol, stress and depression. This decision was partly based on data that had emerged from the RITC smoking project, which showed that 15% of pregnant smokers had also used hard drugs during pregnancy and 50% had used alcohol. These behaviours are often associated with smoking, have similar adverse consequences for fetal and maternal health and if combined, add exponentially to the risk.

The potential collaboration with the Department of Health offered a valuable opportunity for the meaningful application of the research findings from the Smoking in Pregnancy Project in the public sector health services. It also offered an opportunity to test the applicability of the intervention model, developed for smoking cessation, to other risk behaviours common among pregnant women in South Africa.

The final tranche of funding from RITC in the year 2010, allowed me to continue my involvement with the Dept of Health in planning a pilot project to address multiple risk behaviours in pregnancy, incorporating valuable lessons learnt through the development and evaluation of the Smoking in Pregnancy project of 2006-2007. The pilot is to be implemented in selected antenatal clinics operating under the provincial Department of Health in Cape Town. The project is being driven by the Department of Health, but I am a lead member of the project team.

AIMS AND OBJECTIVES OF THE PROJECT

Overall objective: To support the piloting and dissemination of the RITC-funded smoking cessation intervention model and to inform policy decisions to roll out the intervention in public sector antenatal clinics in South Africa and possibly in other developing countries.
Specific Objectives:

1. To further disseminate the findings of the RITC funded Smoking during Pregnancy Project by oral presentations at various forums and by publication of academic articles.

2. To collaborate with the Western Cape Provincial Dept of Health in developing and piloting a multiple risk behaviour intervention for pregnant women in 4 selected, urban and rural antenatal clinics in the province. This intervention will address smoking, drug and alcohol abuse, as well as stress and depression.

3. To develop a video for training health care providers and lay counsellors in brief motivational counselling, using smoking cessation, drug and alcohol abuse as the topics of discussion.

4. To adapt the smoking cessation tools and materials used in the Smoking during Pregnancy Project to the needs of individuals with or at risk of chronic diseases of lifestyle in the context of a research study to be undertaken by the Chronic Disease Initiative in Africa, Dept of Medicine at the University of Cape Town.

5. To develop a funding proposal, in collaboration with the Global Network for Perinatal Health, to further test the feasibility, acceptability and effectiveness of the model of intervention among pregnant women in developing country settings in India and Columbia.

FULFILLMENT OF OBJECTIVES

Objective 1: To disseminate the findings of the RITC funded Smoking during Pregnancy Project

The findings of the RITC-funded smoking cessation intervention have been presented at the following:

- An academic seminar, convened by the Centre of Global Health Research at Umea University in Sweden on the 17 February 2011. Zaino Petersen successfully defended her PhD thesis on the RITC-funded Smoking in Pregnancy project at this seminar.
- A special academic seminar convened on 21 February 2011 by the faculty of Global Health at Lund University in Sweden.
- A workshop held on 10 February 2011 with the Kraaifontein and Mitchells Plain antenatal clinic staff, who will be involved in implementing the pilot project in 2011.
- A stakeholder’s meeting for the Dept of Health multiple risk behaviour project on the 3 December 2010.
- A meeting held with the two Metro sub-structures of the Dept of Health on 25 August 2010.
Since the submission of the March 2011 report, the findings of the RITC-funded smoking cessation intervention have been presented at a number of other forums:

- The article published on the findings of the research project was presented and discussed at an academic seminar the University of Stellenbosch in the Faculty of Family Medicine and Primary care in October 2011. *(Article: The effectiveness of adapted, best practice guidelines for smoking cessation counselling with disadvantaged pregnant smokers attending public sector antenatal clinics in Cape Town, South Africa. Everett-Murphy K, et al. 2010).*

- Presentation on best practice behavioural change counselling methods (5As) to counsellors at ATTIC (AIDS Training and Information Centre) in May 2011.

- Presentation to meeting with the National Department of Health and the Knowledge Translation Unit at the University of Cape Town, September 2011.

- Presentations to Heart and Stroke Foundation of SA and Cancer Association of SA.

- Presentation at meeting with the Perinatal Pregnancy Project, Dept of Psychiatry and Mental Health at UCT and Intimate Partner Violence Project, University of Stellenbosch, November 2011.

- Presentation planned to International Conference on Motivational Interviewing, Italy, June 2012. Special symposium on developing countries. Abstract informally accepted by conference secretariat. Formal notification end of Jan.

The following academic articles/reports, presenting the findings of the RITC-funded project, have been published to date:


- *The development and evaluation of a smoking cessation intervention for disadvantaged pregnant women in SA.* Everett-Murphy, K. PhD thesis in Public
Objective 2: To collaborate with the Western Cape Provincial Dept of Health in developing and piloting a multiple risk behaviour intervention for pregnant women

**Note the project is called the Antenatal Personal Support Project- APSuP

Outline of proposal

A full proposal for the pilot project is attached in the appendix. A brief description follows:

Whilst the intervention will be based on the RITC-funded smoking cessation intervention model, it will address multiple psycho-social and behavioural risk factors that are associated with adverse pregnancy, birth and early childhood developmental outcomes. These will include smoking, drug and alcohol abuse and depression. The Department of Health has prioritised an integrated approach to risk reduction during pregnancy as these behaviours are often interlinked and concurrent. An integrated model of intervention is also deemed more cost effective. If this pilot is successful, it will be rolled out to all antenatal clinics in the province.

The proposed model places brief counselling by lay counsellors at the core of the intervention. As with the RITC supported Smoking in Pregnancy project, the counselling protocol will be based on the 5As Guideline for brief smoking cessation counselling, using key principles of motivational interviewing to ensure that the guideline is delivered in a patient-centred manner. A variety of education materials will be available for distribution by
the lay counsellors to pregnant women in the context of the brief counselling session. These will include the smoking cessation materials developed for the RITC Smoking during Pregnancy Project.

Key objectives of the project

The key objectives of this pilot project are to:

- introduce a lay-counsellor based support system for pregnant women to assist them to cope with psycho-social pressures associated with the pregnancy and to overcome dependency on tobacco, alcohol and/or drugs
- enable early identification and referral of women at severe risk of antenatal / postnatal depression and pregnancy complications arising from substance abuse
- promote positive feelings about the pregnancy and the adoption of a healthy lifestyle to support the health of the mother, infant and family

Existing HIV counsellors will be used to play the key counselling role. They will receive further training in order to implement the integrated intervention and their expanded health promotion role will be formalised within the health system. They will be supported by the midwives, health promotion staff and mental health nurse within the clinic facility.

The project team

A project team was formed in 2009/2010 to advance the pilot project. It is led by the Deputy Director of Health Promotion in the Western Cape Provincial Department of Health (WCPDOH), Trish De Villiers. The other members of the team are: myself, the Deputy Directors of Mental Health (Carol Dean) and Maternal and Child Health programmes (Edna Arends) in the WCPDOH; a PhD researcher from Alcohol and Drug Abuse Research Unit at the Medical Research Council (Petal Petersen); a consultant psychiatrist from the Department of Psychiatry at UCT (Bavi Vythilingum); a post-doctoral Fellow in Addiction Psychiatry in the Department of Psychiatry & Mental Health at the University of Cape town (Katherine Sorsdahl), and the executive director of the Foundation for Alcohol related Research (Leanna Olivier).

As this project is now being driven by staff from within the Provincial Dept of Health, it has a much greater chance of being successfully adopted and implemented more widely within the public health system. The process for gaining support and involvement from many different levels of staff in the Dept was carefully planned to maximise the possibility of the intervention being positively received and accepted. The process aligns with the normal bureaucratic processes in the Dept of Health for the implementation of interventions within
the health system. The results of this pilot intervention are expected to significantly inform policy decisions in this area in the future.

**My role in the project**

My specific role in the project team has been/is to assist in:

- The development of the protocol for the design, implementation and evaluation of the intervention
- Developing a strategic plan that would gain the necessary support and buy-in of key stakeholders within the Health services so as to facilitate the implementation of the pilot intervention in the selected sites and for its eventual dissemination throughout the Western Cape Province
- Making presentations to stakeholders, including at a departmental, community and clinic level, in order to secure broader support for the intervention
- Adapting and developing the education materials and tools to be used in the intervention
- Developing a training programme for health care providers and lay counsellors based on the model of training used in the RITC smoking cessation intervention for pregnant women
- Training health care providers and lay counsellors in intervention procedures, brief behavioural change counselling and related health information

**Activities undertaken by the project team to date**

**Proposals and consultations**

As a team, we have undertaken the following activities in order to prepare the ground for the implementation of the pilot project (in chronological order).

1. Development of the project proposal (myself, Deputy Director of Health Promotion and Deputy Director of Mental Health Services). Numerous meetings to do this.

2. The proposal was first presented to Metro District Health Services (MDHS) at an executive meeting in October 2009. This meeting is chaired by the Head of Metro Health Services, Dr Keith Cloete and is attended by the Directors and their deputies of the 4 Metro sub-structures covering the 8 sub-districts of the Cape Town metro area. The proposal was positively received, but the team was directed to work further on it with the Directors of the sub-structures in which the pilot would be conducted, in order to get their buy-in and their assistance in further developing logistical plan.
3. Mr Jimmy Ledwabe (Chief Director of Programmes), Dr Jamie Claasens (Director of central sub structure, covering Mitchells Plain and Klipfontein) and Dr Lawrence Bitalo (Director of Northern sub structure, covering Tygerberg and Northern areas) were individually consulted. The revised proposal was then circulated to all Directors and submitted to the Divisional Executive Management meeting (DEM) in January 2010. This meeting is chaired by Dr Joey Cupido (Deputy Director General under Professor Craig Househam, who is the Provincial Director General of Health for the WCape Province). The proposal was given initial approval, conditional on certain issues raised in the meeting being addressed. Questions raised related to: who would take on the responsibility to counsel pregnant women; the resources available for the project; the need for an effective referral system as part of the intervention; who will take on management and supervision responsibilities; what would be the lines of accountability within the project; time lines and the question of evaluating the effectiveness of the intervention.

4. A further meeting was held with Dr Claasens and Dr Bitalo in order to decide on the pilot sites for the intervention. The sites selected were Mitchell’s Plain and Kraaifontein Maternal Obstetric Units (MOUs). The directors then gave the go ahead to the sub-district managers (Patrick Jeftha for Mitchells Plain and Patty Olckers and Florence Everts for Kraaifontein) to implement the intervention. It was decided to implement the intervention first in these 2 metro clinics and do two rural sites at a later date, once the procedures and all the logistical issues of the pilot were ironed out. Initial consultations were held with the managers of Maternal and Child Health in the West Coast and Winelands districts to inform them of the project and the intention to implement the intervention at sites in these districts at a later date. The idea received a very positive response.

5. On the 3 February 2010 a meeting was held with staff from the Provincial DOH Maternal and Child Health division, in order to enlist their support for the project. This is the division responsible for the roll out of the BANC programme (Basic Antenatal Care) in the province.

6. Further individual consultations were held with the directors of: Community Based Services (Thobeka Qulula), the HIV, TB and STI Programme (Ms Juanita Arendse) and the Comprehensive Health Programme (Mr Stephen Titus); the National Health Promotion Director (Vimla Moodley); and the head of the Public Health unit (Dr Tracy Naledi) (all within the Provincial DOH). Most importantly, the Directors of Community based services and HIV agreed to expand the remit of the HIV counsellors currently based at the pilot antenatal sites, so that they could include counselling on multiple risk behaviours during pregnancy.

7. On 6 May 2010, a consultative meeting was held with a variety of important stakeholders from both within and outside of the Dept of Health, such as NGOs and research institutions. The aim of this meeting was to present the details of the project
and to get input from the various stakeholders into the planned intervention and to secure their involvement/cooperation.

8. A revised proposal was submitted to Divisional Executive Management meeting (DEM) in June 2010 and approval was granted. The project team was then directed to go ahead and consult with the sub-district and facility managers of the proposed clinic sites.

9. On 25 August 2010, the project team met with the managers from the two identified sub-districts for the pilot (Patrick Jeftha for Mitchells Plain and Patty Olckers for Kraaifontein). At this meeting arrangements were made for the project team to undertake a situational analysis at each facility. The purpose of this was to fully understand the resources available to the project, the usual procedures at the clinic and the potential obstacles. This audit was conducted in October 2010 by visiting the respective clinics and administering a short questionnaire with key informants at the clinics (see appendix).

10. On 30 August 2010 the project team held a workshop to address the following issues: the screening tools that should be used, viable referral pathways; the education materials needed for the pilot and the evaluation of the intervention. The need for a clear system of tracking how many women self-disclosed risk behaviours and put themselves forward for counselling; what output and outcome indicators could be used to assess effectiveness and issues around the acceptance of the intervention by clinic staff and patients and the feasibility of integrating it into routine procedures of care were discussed.

11. The project team assisted Petal Petersen, who is a researcher at the Drug and Alcohol Research Unit at the MRC, to draw up a research proposal for a qualitative evaluation of the intervention. This will form part of her PhD, which is registered with the Faculty of Public Health at the University of Cape Town. Her thesis is on maternal drug use during pregnancy among women attending Midwife Obstetric Units (MOUs) in Cape Town and the systemic factors impacting on the development of comprehensive services. The qualitative evaluation of the pilot intervention will focus on the experiences of pregnant women who receive the brief intervention in two of the above mentioned MOUs, as well as on the experiences of the health workers who will be delivering the intervention to these women. The proposal is attached as part of the appendix.

12. On 18 October, the project team held a workshop to prepare a proposed ‘procedural map’, detailing what steps would be involved in delivering the intervention according to the protocol. This was further developed on the 17 January as part of the project team’s preparation for the workshop with the Mitchell’s Plain and Kraaifontein Maternal
Obstetric Units (MOUs) staff and managers who would be responsible for implementing the pilot.

13. On the 8th of December a further stakeholder meeting was held at the Provincial DOH office to update all interested parties on the development of the project and to get any further input they might have wanted to give before start up.

14. 10 February 2011, a workshop was held with the staff from the Mitchell’s Plain and Kraaifontein MOUs. Staff from the DOH Community Based Services directorate and managers from the NGOs involved in employing, training and managing the HIV lay counsellors in the MOUs also attended. At this workshop, the procedural map was presented for discussion; implications for introducing the intervention and integrating it with the existing system were explored. Issues of liaison between staff, NGOs and the project team; oversight, reporting and supervision; record keeping, resource and training needs and referral pathways were discussed. A set of recommendations for practical implementation of the intervention and a service flow chart were drawn up (see appendix).

15. On the 16 March 2011, the project team met to assist Katherine Sorsdahl, a Post-doctoral Fellow in Addiction Psychiatry in the Department of Psychiatry & Mental Health at the University of Cape Town, to develop a proposal to evaluate the effectiveness of the pilot intervention with limited resources and to discuss how this can be undertaken with the very limited, available resources. This monitoring and evaluation plan can be found in the Appendix.

16. On the 12 April the project team met to finalise arrangements regarding: the timeline of the project; the training of staff and lay counsellors; the implementation procedures at each of the identified sites; the research programme; the development of the educational/motivational materials.

Since April 2011 the following activities have been undertaken:

Training:
The organisation which is contracted by the Dept of Health to conduct all the training of lay counsellors in the Western Cape health services was invited to join the project from May 2011. They have assisted with training of pilot clinic staff, with a view to incorporating the 5As model for behavioural change counselling into their routine training of lay counsellors on a long term basis.

As a team, we have trained a total of 52 midwives, nurses and counsellors from Mitchell’s Plan and Kraaifontein antenatal clinics to deliver the APSuP intervention. Staff members from both clinics were trained across 6 sessions from July – October 2011. Their training included:
- Project Orientation
- Substance abuse (smoking, drug and alcohol use)
- Stress and depression
- The 5A’s counselling method
- Use of materials and tools
- Role playing and viewing of DVD.

In addition, there was an orientation session at each facility prior to the training, to which all clinic staff were invited, including the clinic and facility managers.

Workflow Model:
A workflow system was developed in consultation with nursing staff and counsellors to enable integration, communication and reporting; this was presented and discussed with trainees.

The mental health nurses at each Community Health Centre to which the antenatal clinic can refer, were consulted about the project and prepared for increased referrals.

Materials:
The Self Help Quit Smoking Guide and Quit Tabloid, which were developed as part of the RITC funded smoking cessation intervention for pregnant women in 2006 have been reprinted for the multiple risk behaviour pilot project. The National and Provincial Dept have both printed thousands of copies of each resource for further distribution.

The following new materials have been produced for the multiple risk intervention:

- A pregnancy diary and fetal development chart for distribution to pregnant women during their first booking visit
- A further Quit tabloid leaflet dealing with alcohol, drug use and smoking in an integrated way
- A pamphlet providing the contact details of supporting resource organisations (health services and community based organisations)
- A pamphlet on depression during pregnancy
- A pamphlet promoting early booking for distribution in the community
- A key ring with the 5 essential steps for brief counselling (5As) as a prompt for health care providers.

Monitoring & Evaluation:
Systems for the monitoring and evaluation of the pilot have been put in place in both clinics. The research protocols have been approved by UCT’s ethics committee.
A total of 45 Pre-intervention interviews have been conducted with staff and pregnant women across the 2 facilities.

**Outstanding issues:**
Further work and/or consultation is needed to:
- Validate the proposed PHQ9 depression screening scale for use with pregnant women
- Finalise arrangements for the training of community-based workers for post-natal visits
- Finalise reporting systems to provincial health authorities
- Resolve some outstanding concerns with the NGOs involved in employing, training and managing the lay counsellors in the antenatal clinics.

**Dissemination of findings:**
Dissemination of information to policy makers will take place once the pilot process is complete. This will be in both written and oral form. Oral presentations of the findings will take place at appropriate meetings with stakeholders and conferences aimed at a wider audience, while written dissemination of information will be in the form of publications submitted to indexed peer-reviewed journals. A policy brief will also be prepared.

**Scale up:**
The Provincial Department of Health has expressed support for the model and has undertaken to promote and support a provincial roll-out following successful completion of the pilot intervention.

**Objective 3: Development of training tool for brief smoking cessation counselling**

This is a DVD which can be used as a tool in the training of health care providers and lay counsellors in best practice, brief, behavioural change counselling. The intention was to use it for the training of the lay counsellors and nurses in the DOH multiple risk behaviour intervention for pregnant women, as well as in the project mentioned below, which involves behavioural change interventions for patients with or at risk of chronic diseases of lifestyle (see objective 4). I have collaborated on this project with Professor Bob Mash, who is a doctor and academic at Stellenbosh Medical School in the Dept of Family Medicine and Primary Care. He intends using the video in the Motivational Interviewing training courses he runs at the University, as well as with his medical students.

The video shoot was undertaken on the 15 and 16 October 2010. Actors were recruited to role model interactions between health care providers and patients with health related behavioural risk factors. These included tobacco and substance abuse.
The DVD described above was used in the training sessions with clinic staff for the pilot intervention from May 2011.

**Objective 4: Development of smoking cessation materials for patients with chronic disease**

This project is being undertaken under the auspices of Chronic Disease Initiative in Africa (CDIA) at UCT. One of its objectives is to adapt the smoking cessation tools and materials developed in the RITC-funded Smoking in Pregnancy Project to suit the needs of adult men and women who smoke and who are therefore at risk of chronic diseases of lifestyle, or who already have one.

These materials will use the same testimonial approach as the RITC funded smoking materials. These have been produced and are due for pre-testing in Jan 2012.

**Objective 5: Funding proposal with the Global Network for Perinatal Health**

In 2009, the RITC-funded Smoking during Pregnancy project attracted the interest of the Global Network for Perinatal Health – a network of clinicians and researchers who are interested in doing further research in the area of tobacco use and pregnancy. They approached me to be a co-investigator on a research project in 2 sites in India and 1 in Colombia. The project was essentially to be a replication of our study in a different developing world setting, with certain adaptations. This represented a possible opportunity to evaluate the transferability of our intervention to different cultural contexts. However, our funding application to NIH was not successful.

A further opportunity to apply for funding is currently being explored.

**CAPACITY BUILDING**

I successfully graduated with a PhD in Public Health in June 2011. The subject of my PhD study was the RITC funded smoking cessation intervention study with pregnant women.

The development of the APSuP project has developed capacity within the Dept of Health to effectively address the most prevalent risk behaviours among pregnant South African women as part of their antenatal care. The project team is multidisciplinary and represents various organisations and skill sets. It is the first time that health professionals from across the disciplines of health promotion, mental health, public health and health management have collaborated on a programme of this nature in South Africa.

Members of the APSuP project team are contributing to building capacity through their assistance of a PhD student (Petal Petersen from the MRC) in doing a qualitative evaluation
of the pilot multiple risk intervention and through assisting Katherine Sorsdhal (a young researcher from UCT Psychiatry) in undertaking a process evaluation of the intervention.

I am also supervising a PhD student (Dr Zelra Malan) from the University of Stellenbosch in further developing and testing the training module for primary care practitioners on brief behavioural change counselling. This is based on the training undertaken for the RITC funded smoking cessation intervention for pregnant women.

**PROJECT MANAGEMENT**

The team leader is Patricia de Villiers, the Deputy Director of Health Promotion in the Western Cape Provincial Dept of Health. It was vital that the DOH take leadership and ownership of the project, if it was to have any chance of widespread acceptance in the DOH. The project leadership has been good in terms of administration and the team has worked exceptionally well together. The level of cooperation, the willingness to marshal joint resources and the sense of shared purpose has been notably good. The level of experience and expertise in the project team is of a very high standard, which has meant that the scientific management of the project has been adequate.

However, progress has been slow. This is mainly due to the bureaucratic procedures involved in getting permission from various levels of authority in the DOH to pilot the intervention and to divert resources to it. Also, in this time, the Dept of Health in the Cape Town metro has undergone significant re-structuring, from one large district into the 4 substructures in order to align with the district model of health care. New managers have been appointed in each substructure and it has taken them a while to find their feet. In addition, the project team has taken time to consult with a wide range of stakeholders in order to win their support, involvement and cooperation. We feel that all potential stakeholders have been invited to participate and are well informed about the project.

**IMPACT**

If the planned evaluation shows the intervention to be well accepted, easily integrated into routine antenatal care and effective at picking up cases of high risk women and offering them appropriate support, the project team will have a sound basis on which to lobby for roll out to all antenatal clinics in the Western Cape Province, and possibly at a national level as well. If this occurs, this initiative will obviously have a significant impact on maternal and child health.

**OVERALL ASSESSMENT**

The funding support from RITC for activities following on from the smoking cessation intervention with pregnant women has resulted in the study becoming widely known.
RITC’s support has enabled me to play an instrumental role in getting the APSuP project off the ground. This pilot project has the potential to influence current policies, practices and approaches within the public sector antenatal services and make a meaningful contribution to improving the health status of mothers and babies in SA.
APPENDIX

A) Proposal for Dept of Health Pilot intervention

SECURING BETTER OUTCOMES FOR MOTHER AND CHILD THROUGH PEER SUPPORT IN PREGNANCY

SUBMISSION TO EXECUTIVE TEAM, PROVINCIAL DEPT OF HEALTH

PURPOSE:
To obtain initial approval for a pilot intervention in 4 selected ante-natal clinics in the Province. The intervention aims to reduce multiple risk factors among pregnant women that give rise to a number of adverse pregnancy, birth, foetal, and early childhood developmental outcomes.

MOTIVATION

There is a high prevalence in the province of multiple risk behaviors and psycho-social stresses in pregnant women.

The Perinatal Mental Health Project at UCT (Dr Honikman et al, 2009) found that:
- A third (33%) of women routinely qualify for referral on the basis of the Project’s mental health screening. This constancy corroborates and confirms independent research, for example, Cooper et al (1999) found that 35% women in a low-income setting near Cape Town experience postnatal depression.
- For roughly two thirds of women attending counseling, the main presenting problem remains a lack of primary support. In addition, significantly more counseled women (11% increase) are presenting with 2 or more problem categories.

Statistics for alcohol abuse, smoking and drug abuse in the Western Cape compare unfavourably with national prevalence and that of most other provinces. It is known that:
- Rates of Foetal Alcohol Spectrum Disorder (FASD) in some areas of the province are among the highest in the world
- 46% of Coloured women in the Western Cape continue to smoke in pregnancy compared to less than 5% for other groups of women in South Africa.
- The abuse of methamphetamine (tik) among women of child-bearing age is widely reported. Recently reported research indicates that one in ten pregnant women attending Tygerberg Hospital ANC Clinic uses ‘tik’

The multiple adverse outcomes of these risk factors include: low birth weight, placenta abruption, premature labour, still birth, as well as growth and developmental delays in childhood. These negative outcomes are most prevalent among women of low socio-economic status. Low socio-economic status is commonly associated with daily stressors and life events that can negatively impact on the psychosocial health of a pregnant woman, which, in turn, is associated with many health behaviours that place both the mother and baby at risk. These include tobacco use, drug and alcohol abuse and risky sexual behaviour. These behaviours are often interlinked and many women are using more than one substance of abuse during
Pregnancy is a critical period in which to address risk factors that are known to impact on the health of the pregnant woman, fetal development, birth, bonding and post-natal care and the physical and cognitive development of the child. It is a ‘prime teachable moment’ when women are more motivated than at any other time to modify their lifestyles. The regular contact between the health services and the mother through ante-natal care provides a unique opportunity to make a positive intervention to assist the woman to cope with psycho-social problems that can compromise her ability to care for herself and her child and to help her to address the associated behaviours that place her pregnancy at risk.

Wider immediate benefit is obtained by the inclusion of a partner / family component where partners are included in the counselling process. The improved health of the mother and modification of her risk behaviours impacts positively on the health of her family and the likelihood of their adopting risk behaviours themselves.

Intervention with the pregnant woman is understood to have considerable beneficial socio/economic outcomes as expressed through the diagram below. There is an immediate cost-saving by the health services as a result of prevention of perinatal complications (Appendix A); the long-term socio-economic benefits for the fiscus is hard to measure but includes provision of special care, education, employability, crime reduction etc.

Programmes addressing these risk behaviours in an integrated way are urgently needed. Current prevention programmes provided by the department tend to:

- Focus on single behavioural risk factors in isolation
- Be confined to health education efforts and referral for counseling to outside providers with uncertain outcomes

The proposed pilot model aligns with existing departmental policies and strategic priorities; is cost-effective; can be readily integrated into existing services; and will bring about immediate health improvements in maternal and child health.
INTERVENTION DESIGN

The intervention is predicated on the proposition that the provision of social support to the pregnant woman through peer counselling based on simple Interviews using the ‘5 A’s’ approach is an effective foundation for more specific counselling and / or more specialised counselling as needed.

The pilot intervention will be developed from an evaluation study, conducted by the MRC in 2007/8\(^1\) that successfully used lay counselors to motivate and support pregnant women to cease or reduce tobacco use for the duration of the pregnancy.

The intervention applied evidence based guidelines for brief behavioural change counselling, using an adapted and simplified motivational interviewing approach. Midwives and lay counsellors received 2 x 2 hour sessions of training and were supported by educational materials. The intervention gave rise to a convincing rate of biologically verified smoking cessation and reduction.

Significantly, the intervention succeeded in also reducing alcohol and drug abuse (especially tik) Qualitative research suggested that the offer of counselling on the relatively socially acceptable addiction of smoking opened the door to addressing other more stigmatised behaviours. The trusted form of social support provided by the peer counsellors enabled women to divulge and grapple with more serious risks to their health and that of their unborn babies, such as tik use, binge drinking, partner violence and HIV.

Clinic staff universally welcomed the presence of the counselors during the study. They felt that such a service was a very important aspect of prenatal care, but that they were unable to devote the necessary time to it because of acute staff shortages.

AIM OF THE PILOT INTERVENTION

The aim of the pilot is to implement the MRC intervention model with expanded scope on a limited scale at identified facilities of which 2 will be in the Metropole. It is proposed that training and implementation commence in September 2010 and that the pilot, including recommendations for rollout is completed by the end of 2011.

CASE DETECTION

The implementation of a counselling service on substance abuse for pregnant women at risk is predicated on the assumption that women will be prepared to divulge their dependence early in the ante-natal counselling phase. The MRC study gave rise to a convincing rate of disclosure (47% for smoking, 55% for alcohol use and 13% for illegal drugs during pregnancy) 97% of the smokers offered peer counselling chose to see the counsellor. The qualitative evaluation of the study indicated that the constructive way the issue was approached on first contact with the midwife and offer of support from a peer predisposed the women to disclose their dependence and to take up the offer of assistance. The subsequent trust established with the peer counsellor also appears to have been significant in prompting disclosure on the use of substances (alcohol, tik) regarded as less socially acceptable than smoking. The findings, together with those of the

\(^1\) The Evaluation of a smoking cessation intervention for disadvantaged pregnant women, South African Medical Research Council, May 2009
Peri-natal Mental Health Project, suggest that it is the offer and experience of social support during pregnancy that triggers the willingness to disclose problems. The Pre-natal Alcohol in Sudden Death and Stillbirth (PASS) study under way at the University of Stellenbosch and including all clinics served by Tygerberg deploys trained fieldworkers to complete an 8 page questionnaire – this study has also given rise to high rates of disclosure. The case for biological testing for case detection is currently unconvincing:

- The cost of urine sampling is currently R30 per sample for alcohol and R50 alcohol and heroin. Hair sampling, while more reliable costs R600 for alcohol and R400 for 5 drugs.
- The lifespan of detection is short in particular with urine sampling. An MRC study\(^2\) currently under way has established to date that of 6 alcohol self-reports, only one urine test came up positive, probably because the women were binge drinking on weekends and the evidence had been eliminated from the urine by the time they presented at the clinic.

It is therefore recommended that more positive results will be achieved through a focus on self-reporting and the development of capacity among health workers to elicit this effectively.

REFERRALS
The implementation model will include guidelines and capacity building for midwives and peer counsellors on when to refer women to the mental health nurse or a social worker for more specialised support. Agreements to be reached with the relevant local agencies with respect to the follow-up monitoring of clients. An aim will be to promote the integration of these agencies’ services. Protocols and details will be worked out in conjunction with each pilot facility and associated agencies.

MONITORING AND EVALUATION

Outcomes Measures
The expected long-term measurable outcomes of the intervention based on routine (RMR) reporting are:

A reduction in the number per MOU
- Low birth weight
- Abruptio placenta
- Preterm labour
- Still births
- Neo-natal deaths

Information on pre-and post-natal suicide to be obtained from the Maternal Death Register

Measurable outcomes based on (external research) reporting are:

A reduction in:
- The incidence of FAS
- The prevalence of pre- and post-natal depression

Output Measures
The pilot project will develop a monitoring tool to record:

- % of women accessing ANC services referred to and attending a first sessions and subsequent sessions with the peer counsellor (up to 3 times, once post-natal)

\(^2\)
• % of the above self-reporting with the following issues: tobacco, alcohol, street / other
drugs, family problems, psycho- social stresses and substance abuse
• % of the above provided with the Quit guide
• % of the above referred for specialised support and progress with follow up
• % of the above self-reporting as having quit/modified dependence both pre- and post-
delivery

Regular interviews and meetings will be held with clinic staff, clinic management and the peer
 counsellors to monitor progress, collaboratively identify and resolve any problems and assess
their ongoing experience of the intervention.

Evaluation:
Petal Petersen is a funded PhD student from the Alcohol & Drug Abuse Research Unit of the
MRC who has expressed strong interest in undertaking a formal evaluation of the impact of
the intervention using funding that the unit receives as part of a Cooperative Agreement with
the US Centres for Disease Control & Prevention.

The evaluation will assess the impact of the intervention on the rates of smoking, alcohol use
and drug use. The evaluation will also investigate how clinic staff, the peer counsellors and
pregnant women respond to the intervention.

After the period of the pilot in 4 selected clinics, the feasibility of model for general application
will be evaluated and recommendations will be made to senior management.

PROPOSED FACILITIES
Recommended through consultation and confirmed by Districts
• Mitchell’s Plain
• Kraaifontein
• At a later date: Cape Winelands (Kayamundi. Mbekweni) and Vredenburg/ Saldanha

PROJECT PHASES

Phase One: Pre-implementation: June 2010 – February 2011
Task team to develop protocol, tools and materials (including training tools and the production
of a training video); design the evaluation and pre-test the intervention protocols with lay
counsellors and midwives

Training & implementation, inclusive of: quarterly refresher training & support; quarterly
evaluation. Training will be provided to the midwives, mental health nurses, clinical staff, and
health promoters and the identified lay counsellors at the pilot facilities. The training package
will be adapted from the existing materials for smoking cessation.


3 This is only provided after the client has expressed the firm intention to quit/modify behaviour
Project evaluation and recommendations to the Provincial Health Department for implementation and monitoring rollout.  

COSTS AND BENEFITS

The proposed intervention offers an opportunity to implement an effective integrated prevention strategy at minimum cost to the department. It is based on existing resources and infrastructure available at PHC with minimal implication for adaptation. However it needs to be recognised that the provision of basic support to pregnant women may result in increased demand for more specialised supporting services for needs that emerge. The Department of Social Development have indicated a willingness to allocate a Social Worker to each pilot site. Where additional needs exist an effort will be made to create links with existing resources and find solutions at a facility / community level

Cost implications:

- Human resources: the assumption to be tested is that the intervention can be based on the adapted role of existing lay counsellors with clients referred by the ante-natal nurse during routine ante-natal visits; support, supervision and oversight management requirements will need to be tested via the pilot sites; the need for referral to more specialised counselling and the availability of these services will need to be explored; the pilot itself will call for project management and support at provincial and district level;
- Infrastructure: A private space for counselling will need to be allocated
- Training: Initial training for midwives, clinical staff and lay counsellors consists of 2 x 2 hour sessions; refresher training will have to be factored in. Full consensus of health service staff is a critical factor – this may call for some training
- Client Support Materials: These will need to be available on an ongoing basis.

Expected Benefits:

- The intervention, if successful, offers immediate health gains for both mothers and babies with substantial savings associated with averting pregnancy complications and low birth weight deliveries estimated at $6 saved per $1 invested with respect to tobacco cessation alone as well as longer term gains through a reduction in FASD and other substance-related birth defects
- The pilot and evaluation will establish the feasibility of establishing the service across all relevant facilities in the province with recommendations for HR, longer term implementation, monitoring and periodic evaluation,
- The intervention will promote the integration of programmes towards the common goal of enhancing the health status of pregnant women and infants and will facilitate inter-sectoral collaboration between government departments, services and NGOs.

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4 The recommendations will also serve to inform the National Health Promotion Directorate as to the feasibility of implementation in other provinces

5 The current expansion of HCT services may have implications for the availability and capacity of lay counsellors and call for the appointment of additional counsellors at certain sites
EXTERNAL SUPPORT

- The pilot intervention is well-supported by external resources with associated skills transfer and capacity-building:
  - The Project Research Consultant (Ms K. Murphy) will be funded for Year One by IDRC Canada.
  - A funded PhD student from the Alcohol & Drug Abuse Research Unit of the MRC has expressed strong interest in undertaking a formal evaluation of the impact of the intervention using funding that it receives as part of a Cooperative Agreement with the US Centres for Disease Control & Prevention.
  - Training will be led by the Project Research Consultant with the support of the project team. Intervention tools will be adapted from the MRC model in consultation with other experts. Bob Mash, University of Stellenbosch
  - Education materials: The National Health Promotion Directorate has undertaken to re-print the available materials; further development and acquisition will be based as far as possible on existing materials (e.g. Soul City) The National Mental Health Directorate has indicated willingness to support the intervention

PROJECT STRUCTURE:

- **Service Level**:
  - Project Sponsors: District Directors (The Metro may delegate to the relevant sub-structure Directors)
  - District Project Coordinator

- **Provincial Health Programmes**

- CD: Programmes will report to SMT

- The Project team will comprise:
  - A Provincial Project Coordinator
  - The Mental Health, Health Promotion & Maternal Health Programmes
  - Discussions are under way with the Public Health Unit for the appointment of a Registrar to the project

- The Project Team will coordinate the implementation with the assistance of and/or consultation with:
  - Project Research Consultant, UCT (Katherine Murphy).
  - PHD student, MRC (Petal Petersen)
  - Sharon Nqadini, Department of Social Development, Substance Abuse
  - Dr Natasha Rhoda, Provincial Neo-natal specialist
  - Dr S. Honikman, Perinatal Mental Health, UCT
  - Ms L. Olivier, FARR.
  - Prof Sandra Marais, MRC
  - Dr Sue Hawkridge, Child Psychiatrist UCT/Stellenbosch
  - Dr Lize Weich, Psychiatrist, Substance Addictionist
  - Dr Joanne Corrigal
  - Dr Bob Mash, University of Stellenbosch
A memorandum of understanding will be drawn up by the Dept to confirm various roles and accountabilities.

REPORTING STRUCTURE

SUPPORT FOR THE PROPOSAL

The proposal has to date received in-principle support from:

- DEM
- MDHS Exco
- The CBS Directorate
- Comprehensive Health Directorate
- The Public Health Unit
- The MRC Chronic Diseases Department
- The MRC’s Alcohol & Drug Abuse Research Unit (Prof C Parry)

The National Health Promotion Directorate has expressed support for the model and has undertaken to facilitate and support a national rollout following successful completion of the pilot intervention.

APPROVAL
The following approval is sought:
- To implement the proven benefits of the model as described at 4 pilot sites
- To use the selected recommended sites (or modification thereof)
- To commence with the project in 2011 and run according to the other phases
- To implement through the structures outlined

CONCLUSION

The project is envisaged to introduce and test a much-needed service at minimal financial and HRM cost to the department. Should it be successful, it promises to provide a cost-effective and readily implementable model that can bring significant medium and long-term health benefits to women and children. It also promises a meaningful contribution to improving the quality of antenatal health care services in the province.

Submitted by:
Ms P. de Villiers          Ms Carol Dean          Ms Edna Arends
Deputy Director, Health Promotion  Deputy Director, Mental Health  Deputy Director, Women’s Health
B) Audit Questionnaire for selected MOU’s

**General**
What is the catchment area of the facility incl. Population and a map if possible?

**Client statistics**
1. Number of Births (annual)
2. Number of pregnancies referred to hospital care
3. Headcount: ante-natal visits (weekly, daily average)
4. <20 weeks booking rate,
5. Average daily flow-through; first bookings and follow-ups (from sub-district? Facility? )
6. (Monthly sample?) Number identified with substance issue; number identified with social, family problem,
7. Number referred to Mental Health Nurse; external counselling (e.g. SANCA)
8. What health education is routinely provided to clients? Who provides it? What educational materials are routinely provided?

**Staff Establishment**
9. Number of all staff and functions
10. Number of Lay Counsellors and scope of practice / JD
11. Average time per client; average daily number of clients
13. Number of HBC CHW’s and supervising NGO’s; are they currently requested to follow up on referrals from facility? (detail)

**Prior Training**
14. Have staff been trained in:
   
   BMI
   5 A’s
   Aspects of Mental Health / substance abuse
   Details of above: Who was trained? When? Length of training? Have they implemented the training?

**Tools & Protocols**
15. Current tools / protocol on identification of mental health/SA issues and management procedures with MH / SA pregnant clients; record of referrals?
Agencies for Referral
16. Referral agencies available through DoH and outside agencies in the area

17. Other possible support organisations

Capacity
18. Capacity and willingness of site to integrate; space? Midwife time? Support, mentoring capacity; challenges re attitude, user-friendliness of site?
## Work Flow Chart for APSuPP Intervention

<table>
<thead>
<tr>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
<th>Step 6</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Community Health Worker</strong></td>
<td><strong>First contacts at MOU</strong></td>
<td><strong>History - taking nurse</strong></td>
<td><strong>HIV + 5As counsellor</strong></td>
<td><strong>Midwife</strong></td>
<td><strong>Community Health Worker</strong></td>
</tr>
<tr>
<td>-Promotes early booking (14 weeks)</td>
<td>-PW makes a clinic appointment</td>
<td>-Does usual MOU history taking</td>
<td>-Does pre-test counselling</td>
<td>-Does clinical examination of PW</td>
<td>-Follows up PW at her home during pregnancy and after delivery</td>
</tr>
<tr>
<td>-Promotes free scan and pregnancy testing at MOU</td>
<td>-Waits in waiting room</td>
<td>-Documents information on clinic card and in folder</td>
<td>-Refers PW for HIV test</td>
<td>-Reviews all information in folder (from nurse who took the history and from HIV/5As counsellor)</td>
<td>-Works in close cooperation with HIV/5As counsellor in following up high risk PW</td>
</tr>
<tr>
<td>-Health Promoter gives group education session</td>
<td>-Does mental health screening using PHQ9 tool</td>
<td>-Secures written consent and places form in folder</td>
<td>-Refers PW to YMCA, M2M or PP for ongoing support</td>
<td>-Can refer PW back to HIV/5As counsellor, mental health nurse where there is a problem</td>
<td></td>
</tr>
<tr>
<td>-Nurse explains MOU procedures</td>
<td>-Places PHQ9 form in folder</td>
<td><strong>If HIV + :</strong></td>
<td><strong>If HIV - :</strong></td>
<td><strong>Resources/materials:</strong></td>
<td><strong>Training</strong></td>
</tr>
<tr>
<td>-PW goes to clerk to book in and to recieve her folder</td>
<td>-Alerts MW to any serious problems</td>
<td>does usual counselling and refers PW to YMCA, M2M or PP for ongoing support</td>
<td>does 5As counselling, distributes materials and keeps records for follow up</td>
<td>-Flyer to promote MOU services and importance of early booking</td>
<td>-Health Promoter joins general intervention training with other health care providers</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>If HIV + :</strong></td>
<td></td>
<td>-DVD on healthy pregnancy (Heart Foundation)</td>
<td>-Training in PHQ9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>does usual counselling and refers PW to YMCA, M2M or PP for ongoing support</td>
<td></td>
<td>-PHQ9 screening tool</td>
<td>-Joins general intervention</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-5As Guideline and poster Educational/motivational materials on tobacco, alcohol, drugs, mental health</td>
<td>-Attends general intervention training</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Directory of resources for referral (health services and NGOs)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>-Screening tool and information on symptoms of post natal depression</td>
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<tr>
<td></td>
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<td></td>
<td>-Referral resources directory</td>
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</tbody>
</table>

### Resources/materials:

- Flyer to promote MOU services and importance of early booking
- DVD on healthy pregnancy (Heart Foundation)
- PHQ9 screening tool
- 5As Guideline and poster Educational/motivational materials on tobacco, alcohol, drugs, mental health
- Directory of resources for referral (health services and NGOs)
- 5As Guideline and poster
- Directory of resources for referral (health services and NGOs)
- Screening tool and information on symptoms of post natal depression
- Referral resources directory

### Training

- Information on purpose of flyer and need for early booking
- Health Promoter joins general intervention training with
- Training in PHQ9
- Joins general intervention
- Attends general intervention training with other health care providers
- Attends general intervention training
- Receives training on follow up, screening and referral
C) Work flow chart for implementation of intervention

D) Research proposal by Petal Petersen

QUALITATIVE EVALUATION OF AN INTEGRATED BEHAVIOURAL INTERVENTION WITH SUBSTANCE USING PREGNANT WOMEN IN THE WESTERN CAPE, SOUTH AFRICA

1. BACKGROUND
Maternal substance use in pregnancy poses health risks for women and their unborn babies, including HIV risk from unsafe drug use and sex practices (Wechsberg et al., 2008a). The effects of maternal drug use on the fetus and postnatal infant outcomes are a growing public health concern. There is increasing evidence in South Africa of substance abuse among women (and in particular women of childbearing age) (Pluddeman et al., 2007) and the burden this places on the health and social development of mothers and their infants. Therefore a study that examines (i) substance use practices of pregnant women and (ii) the effect of a brief intervention (BI) on substance use and associated risk among these women is particularly useful. Furthermore, it can help policy makers and antenatal service providers identify how best to respond and improve service delivery.

Statistics for alcohol abuse, smoking and drug abuse in the Western Cape compare unfavourably with national prevalence. It is known that:
1) The Western Cape has one of the highest known Fetal Alcohol Spectrum Disorder prevalence rates in the world where the rate of Fetal Alcohol Syndrome (FAS) and Partial Fetal Alcohol Syndrome (PFAS) combined among first grade children in a wine-growing region in the Western Cape has been as high as 72.1 per 1000 (May et al., 2007).
2) Previous research at the Medical Research Council found that 46% of "Coloured" (mixed-race) women in the Western Cape continue to smoke in pregnancy and a recent smoking cessation intervention study found that 52% of pregnant women had drunk alcohol since becoming pregnant while 14% had used drugs (Everett-Murphy et al., 2010).
3) Recent (on-going) research at the Medical Research Council’s Alcohol and Drug Abuse Research Unit has also found that despite a low self-report response rate for illicit drug use (3%) among 2453 pregnant women screened at antenatal clinics in the Cape Metropole, 26% of the urine samples collected among these pregnant women were positive for illicit drugs.

The multiple adverse outcomes of these risk factors include: low birth weight, placenta abruption, premature labour, still birth, as well as growth and developmental delays in childhood. These negative outcomes are most prevalent among women of low socio-economic status. Low socio-economic status is commonly associated with daily stressors and life events that can negatively impact on the psychosocial health of a pregnant woman, which, in turn, is associated with many health behaviours that place both the mother and baby at risk. These
include tobacco use, drug and alcohol abuse and risky sexual behaviour. These behaviours are often interlinked and many women are using more than one substance of abuse during pregnancy. Where there is concurrent use of tobacco, alcohol or drugs the risk to the pregnancy and unborn baby is increased exponentially.

Pregnancy is a critical period in which to address risk factors that are known to impact on the health of the pregnant woman, fetal development, birth, bonding and post-natal care and the physical and cognitive development of the child. It is a ‘prime teachable moment’ when women are more motivated than at any other time to modify their lifestyles. The regular contact between the health services and the mother through ante-natal care provides a unique opportunity to make a positive intervention to assist the woman to cope with psycho-social problems that can compromise her ability to care for herself and her child and to modify the associated behaviours that place her pregnancy at risk.

Intervention with the pregnant woman is understood to have considerable beneficial socio/economic outcomes. There is an immediate cost-saving by the health services as a result of prevention of peri-natal complications; the long-term socio-economic benefits for the fiscus is hard to measure but includes provision of special care, education, employability, crime reduction etc. Programmes addressing these risk behaviours in an integrated way are urgently needed. Current prevention programmes provided by the Department of Health tend to focus on single behavioural risk factors in isolation and be confined to health education efforts and referral for counseling to outside providers with uncertain outcomes.

The proposed pilot model aligns with existing departmental policies and strategic priorities; is cost-effective; can be readily integrated into existing services; and will bring about immediate health improvements in maternal and child health.

2. AIM AND OBJECTIVES

2.1 Aim
To qualitatively evaluate pregnant women’s attitudes and perceptions towards a multi-risk intervention aimed at pregnant women to reduce substance use and related risk and to assess the acceptability and feasibility of its integration into routine antenatal care.

2.2 Objectives
1. Explore (a) the ways in which MOUs in the Cape Metropole currently respond to substance use among pregnant women, (b) staff attitudes and behaviours related to substance use among patients.
2. Explore and describe systemic factors that might hinder or support the implementation of interventions to reduce substance use and associated risk behaviour among pregnant women.

3. METHODS

Intervention and delivery
The intervention is predicated on the proposal that the provision of social support to the pregnant woman through peer counselling based on simple BMI is the foundation for more specific counselling and / or more specialised counselling as needed.
The pilot intervention will be developed from an evaluation study, conducted by the MRC in 2007/8 (Everett-Murphy et al., 2010), that successfully used lay counselors to motivate and support pregnant women to cease or reduce tobacco use for the duration of the pregnancy.

The intervention applied evidence based guidelines for brief behavioural change counselling, using an adapted and simplified motivational interviewing approach. Midwives and lay counsellors received 2 x 2 hour sessions of training and were supported by educational materials. The intervention gave rise to a convincing rate of biologically verified smoking cessation and reduction.

Qualitative research suggested that the offer of counselling on the relatively socially acceptable addiction of smoking opened the door to addressing other more stigmatised behaviours. The trusted form of social support provided by the peer counsellors enabled women to divulge and grapple with more serious risks to their health and that of their unborn babies, such as methamphetamine (tik) use, binge drinking, partner violence and HIV.

Clinic staff universally welcomed the presence of the counselors during the study. They felt that such a service was a very important aspect of prenatal care, but that they were unable to devote the necessary time to it because of acute staff shortages.

Qualitative Study
A qualitative study of the women who received the brief intervention during their pregnancy will be conducted as well as the health workers who delivered the interventions to these women. Main questions to answer with the qualitative study:

- How can BI be integrated into the current system?
- Is it feasible?
- Is it acceptable to health care providers and pregnant women receiving services?
- Are special peer counselors needed in public sector clinics to implement the intervention?
- Could we use current HIV counselors who could serve a dual purpose?

3.1. Sampling Procedure
Non-random purposive sampling techniques will be used to select a sample of the women who formed part of the intervention group and with health care providers including peer counsellors within each of the clinics where the intervention is being delivered.

The following will be excluded from participation:

- Women who do not give written consent to participate in the study.
- Women who are under 16 years of age.
- Women who dropped out prior to study completion.
- Health workers who do not give written consent to participate in the study.

3.2. Instruments
Interview schedules will be developed by the researcher to elicit responses from the focus group interviewees that address the topical areas of interest for this phase. Interviews with intervention participants will involve an exploration of their experiences of substance use, unsafe sex, HIV and pregnancy, and to determine their perceptions on the feasibility and acceptability of interventions aimed at pregnant women to reduce drug risk behaviour, particularly their reaction to staff and health workers. It will also look at experiences of stigma by clinic staff regarding their drug use. Specific areas of interest include:
– Explore their experiences of quality of care (their experiences of services and how it affects their perceptions of quality of care)
– Explore perceptions on the feasibility and acceptability of interventions aimed at pregnant women to reduce drug risk behaviour, particularly their reaction to staff and peer counselors
– Explore experiences of stigma by clinic staff regarding their drug use
– Explore referral procedures and take-up of these
– Explore challenges to behavior change
– Explore their perceptions of the materials provided as part of the intervention

Interviews with health workers will focus on their views on the feasibility, acceptability and effectiveness of interventions to promote health and/or reduce harm associated with substance use during pregnancy as well as explore their personal experiences of delivering interventions. Specific areas of interest include:

– explore how MOUs respond to substance use and related risk behaviour among pregnant women seen at the clinics
– views on what kinds of interventions are likely to work in the MOU setting
– systemic factors that might hinder or support the implementation of interventions to reduce substance use and associated risk behaviour among pregnant women
– questions around training, intervention, feasibility and how the BI can be integrated
– Feasibility and acceptability of the model
– What systems support they need to implement the intervention
– After feedback of the survey statistics – ask them based on that how important they think it is to have this intervention
– Do they believe it is their role to implement and provide the intervention to pregnant women
– What do they believe is their role and how do they relate to each other (i.e. staff to peer counselors and vise versa)
– Do they think they can do the intervention
– What training do they need in order to perform tasks (pre) and do they think they received adequate training (post).
– Personal experiences with behavioural change counseling: rewards and frustrations.

The final instruments for the pre-intervention interviews will be developed after further consultation with the project partners for this phase of the study and following a stakeholders meeting which is to take place prior to implementation. This is to ensure that the issues important to and of concern to the primary stakeholders (particularly those who have committed to the further roll out of the intervention) are addressed in the evaluation. The final instruments for the post-intervention interviews will be developed during or after the completion of the intervention as there may be specific questions that arise during implementation.

3.3. Data Collection Procedures
Two focus groups (as the interest is not in individual behavior change) consisting of 10 women each will be conducted with participants who provide informed consent for the current study pre and post intervention. These interviews will also be audio-recorded and transcribed verbatim. Key informant interviews with the health care providers (n=4) will also take place in each site pre and post intervention.

3.4. Data Analysis
Qualitative analysis of data will be conducted using the framework approach (familiarization, identifying a thematic framework, indexing, charting, mapping and interpretation; Pope, Ziebland, & Mays, 2000). Initially, focus group responses will be read for emergent themes, which will then be coded. Care will be taken to ensure the codes accurately capture the respondent’s meaning. Two researchers will independently code the interviews to ensure validity of the categories. AnSWR® (Strotman et al., 2002), a qualitative software program, will be used.

4. ETHICAL CONSIDERATIONS

Training
- Full training will be provided to all staff at the clinics involved in the delivery of the intervention and the interviews for the evaluation will be conducted by the PI and 1 trained researcher.
- Training will also stress the primary ethical considerations:
  - Respect for persons (informed consent, protection of anonymity and confidentiality, protection of data from harmful access or harmful use).
  - Do no harm.
  - Social justice.
- Clinic staff will receive training on the importance of maintaining a supportive and encouraging approach and avoiding moral judgement.

Screening, key informant interviews and intervention
- The study will only begin once ethical approval has been obtained from the University of Cape Town’s (UCT) Research Ethics Committee in the Health Sciences Faculty. To protect the confidentiality of the participants, no names or other information that could directly identify any participant will be disseminated.
- Participants will be screened to determine whether they meet inclusion criteria. Prior to proceeding with interviews and urine collection study participants will be asked to sign a consent form that gives them information about the research and study process to be followed.
- Respondents will be informed that the information for evaluation of the intervention will not become part of their routine clinic information.
- No medicine will be administered to pregnant women in this study.
- All assessments will take place in private, out of the hearing of others and preferably out of their sight as well.
- Confidentiality will be maintained by ensuring that all fieldwork staff are thoroughly trained and adequately supervised.
- Reporting will be done in such a way that individual women cannot be identified.
- All data will be stored in secure offices.

Potential benefits
If the intervention has an impact on the drug and alcohol use behaviour of pregnant women, it will have a direct benefit on the health of the women and their unborn babies. It could also lead to the avoidance of costly medical care for a baby affected by substance use. Quitting substance use in pregnancy could also lead to permanent cessation.

**Potential harm**

Exposure to an intervention programme may increase feelings of anxiety and guilt among women who cannot quit. This will be addressed in the training of lay health workers who will administer the intervention. The importance of maintaining a supportive and encouraging approach and avoiding moral judgment will be emphasized.

**Unassisted consent of adolescents**

Adolescent pregnancy is very common in South Africa and a significant number of pregnant women attending public sector antenatal clinics are aged 18 years or younger. According to the South African Demographic and Health Survey (SADHS) of 2003, 12% of women 15-19 are mothers or are pregnant with their first child (Department of Health et al., 2007a). International research has shown that substance use among pregnant 15-17 year olds was higher than among those pregnant women 18 years and older (U.S. Department of Health and Human Services, 2007). SACENDU data also shows that the proportion of patients entering drug treatment who are younger than 20 years in the Western Cape was 27% in the second half of 2007 (Plüddemann, 2008b). These women are likely to have different perceptions of health and risk behaviour compared to more mature women and interventions designed to target this group would have to bear that in mind. Teenagers are likely to respond differently to an intervention compared to more mature women. They are likely to have less knowledge of the health issues relevant to pregnancy and have different perceptions of personal risk. They are also more likely to have unplanned pregnancies, have less stable relationships with the father of the baby and consequently less social and financial support during their pregnancy. These are psychosocial risks which have been associated with maternal substance use (Derauf et al., 2007; Hans, 1999). According to the Department of Health (2004) 'Ethics in Health Research: Principles, Structures and Processes', adolescents may be capable of consenting themselves to certain types of research participation and that, for particular types of research, it may be desirable that they do so unassisted. It is felt that for the current study, adolescents are unlikely to admit to substance use or answer questions truthfully if their parent/s are present or aware of the nature of the research. It is also felt that once they have become pregnant, adolescents assume many adult responsibilities and are thus capable of understanding and providing informed consent to participate in a study relating to their health and the health of their unborn baby.

**5. OUTPUTS**

Dissemination of information to policy makers will be in both written and oral form. Oral presentations of the findings will take place at appropriate meetings with stakeholders and conferences aimed at a wider audience, while written dissemination of information will be in the form of publications submitted to indexed peer-reviewed journals. A policy brief will also be prepared. The National Health Promotion Directorate with Department of Health has expressed support for the model and has undertaken to facilitate and support a national roll-out following successful completion of the pilot intervention.
REFERENCES


E) Draft research proposal: Katherine Sorsdahl

THE EFFECTIVENESS OF A BRIEF INTERVENTION TO REDUCE DEPRESSION AND SUBSTANCE USE AMONG PREGNANT WOMEN IN THE WESTERN CAPE

AIM
To investigate whether a brief intervention can reduce depression and substance use among pregnant women in the Western Cape

OBJECTIVES
1. To screen all pregnant women presenting at two community clinics for depression and substance use.
2. To administer a brief intervention (5As) to ALL pregnant women.
3. To investigate the effectiveness of the 5As on depression and substance use outcomes (only for at risk women) and the feasibility of implementing this intervention in a real-world setting.
4. To identify potential site differences in the degree to which the intervention is effective.
5. To qualitatively investigate the experience of “high risk” women who were referred to specialist services (both those who did access services and those who did not)

Background
Depression and alcohol and other drug (AOD) use are highly prevalent among pregnant women. For example, a recent meta-analysis investigating depression among pregnant women, reported prevalence rates of 7.4%, 12.8% and 12.0% for the first, second, and third trimesters respectively (1). Additionally, two recent, local l studies have found high levels of alcohol, tobacco, and other drug use among pregnant women in the Western Cape province (2;3). Among a sample (n=318) of 2453 pregnant women screened at antenatal clinics in the Cape Town metropole, 26% of the urine samples were positive for illicit drug use (3). These high prevalence rates have profound implications for maternal and child health. Studies have found an association between depression, preterm birth and low birth weight (4). Illicit drug use in pregnancy has been associated with preterm delivery, low birth weight infants, placental abruption, neonatal abstinence syndrome (NAS), and Neonatal Intensive Care Unit (NICU) admission (5). The most severe consequences of alcohol use during pregnancy are the fetal alcohol spectrum disorders (FASD) (6). Studies conducted with three separate cohorts of Grade 1 students in Western Cape province in 1997 (7), 1999 (8) and 2001 (9) identified rates of FASD of 40.5–46.4 per 1000; 65.2–74.2 per 1000; and 68.0–89.0 per 1000, respectively. These findings are particularly alarming since they are the highest ever reported.

An effective strategy for preventing these negative outcomes is to screen pregnant women for depression and AOD use and provide brief, best practice interventions to ‘at risk’ women (10-14). A systematic review by the Counselling and Behavioural Interventions Work Group of the US Preventive Services Task Force (USPSTF, 2002 & 2009) established that there is strong evidence indicating that brief counselling assistance can be effective in changing risk behaviours and can produce clinically meaningful improvements in important biological indicators. In the review, the USPSTF judged the 5As construct for brief behavioural counselling (15) to have the highest degree of empirical support for each of its elements. This construct was originally developed by the National Cancer Institute in the US to guide physician intervention in smoking cessation, but has since been recommended to a variety of
health care providers as a general approach to engaging patients in the self-management practices needed to change and maintain health related behaviours (16;17). There is accumulating evidence to show that brief interventions (such as the 5As) integrated into routine primary care can effectively address risk behaviours such as problem drinking and other substance use (e.g Elford et al., 2001). At the present time, there is no evidence on the 5A’s for treating depression. However, research has shown that any psychotherapy (or talk therapy) can be effective for mild to moderate depression in pregnancy. Additionally, since the 5As incorporates a motivational interviewing component, it may prove effective in the treatment of depression by increasing an individual’s intrinsic motivation to achieve a goal.

Despite the evidence for the potential effectiveness of brief interventions in general, in South Africa and the Western Cape Province in particular, services aimed at women during pregnancy are limited. With the growing concern regarding the potential impact of depression and AOD use on pregnancy outcomes, a strong case can be made for urgently scaling up existing efforts. Since the 5As interventions model has shown to be effective for smoking cessation in this population (2), investigating the effectiveness of a more integrated model (including substance use and depression) is required prior to rolling out the model into services. In order to ensure sustainability it is also important that the intervention is suitable for administration by peer or lay counsellors due to shortages of health professionals in the country.

Therefore, the purpose of present study is to investigate the effectiveness and feasibility of an intervention based on best practice guidelines for smoking cessation for pregnant women (the 5As) (18) in reducing depression and substance use in pregnant women. Unfortunately, due to financial constrains a randomized control trial is not feasible. Therefore, the present study will be an uncontrolled one-group pre-post design.

METHODS

Study/target population
All women attending the clinics for pre-natal care over the period of one year.

Study sites
We propose implementing the study at two sites (Kraaifontein & Mitchells Plain antenatal clinics) so that we can identify potential site-related challenges that may impact on the feasibility and effectiveness of these interventions. This information will be important for the future scaling up of interventions.

The intervention
The 5A’s brief intervention will be delivered by trained, HIV counsellors already based at the antenatal clinic during the participant’s first visit to the clinic, if they are HIV negative. It is at this visit where HIV positive participants will be receiving appropriate counselling, making this visit not ideal for an intervention. These participants will receive the 5As intervention at their second visit to the clinic. Since pregnant women return to the clinics numerous times as part of routine care, further counselling is available at any time.

PHASE 1: EFFECTIVENESS OF INTERVENTION

Synopsis of study procedures
As part of routine care, all pregnant women attending the pre-natal clinic are seen by a nurse who takes every new patient’s medical history. All women will be screened by this nurse for depression (using the PHQ-9) and substance use (with two basic questions on whether they have used any substances). The nurse will explain to each woman, should they be at risk for depression or substance use that a research assistant may phone them to ask further information (informed consent). A copy of the PHQ of each participant will be given to a Research Assistant (RA) based at the Department of Psychiatry & Mental Health at the University of Cape Town. If at any time a women discloses substance use to the lay counsellor or nurse, their details will be forwarded on to the RA.

Women who score a ?? or above on the PHQ will be included in the study. Since baseline data will be collected by the study nurse, the RA will conduct a 3 month follow-up of these participants, where the PHQ will be re-administered. The RA is responsible for phoning the eligible participants and obtaining informed consent via telephone (see Appendix A).

Additionally, the contact details of participants who disclose using substances to the lay counsellor, while receiving the 5As intervention, will be forwarded to the RA. The RA will contact the participant and obtain baseline ASSIST scores via telephone in addition to the 3 month follow-up. A few questions pertaining to satisfaction with services and barriers to treatment will also be administered at the three month follow-up. We are hesitant to have the lay counsellor administer the ASSIST as we feel it may impact the therapeutic relationship and ultimately the effectiveness of the intervention.

Should a participant obtain a high score on the ASSIST screening form, the RA will check with the lay counsellor to ensure that the woman has received an opportunity for referral for further professional assistance from either her or the midwife. If not, the lay counsellor will be advised that the score merits further intervention.

**Measures**

This study is an uncontrolled one-group pre-post design. Baseline and follow up questionnaires will be interviewer-administered and will be translated and back-translated into Xhosa and Afrikaans (the most frequently spoken languages in the Western Cape). Socio-demographic information will also be collected.

**Outcome Measures:**

**Primary outcomes**

**Depression:** The PHQ-9 is the nine item depression scale of the Patient Health Questionnaire. The PHQ-9 is a powerful tool for assisting primary care clinicians in diagnosing depression as well as selecting and monitoring treatment. This scale is going to be used widely in the public sector Primary Health Care services. However, at the present time this scale has not been validated in the South African context.

**Substance use:** ASSIST (Alcohol, Smoking, and Substance Involvement Screening Test) will be administered to assess the extent of problematic substance use and has been validated in a number of developing countries, including Zimbabwe and India (WHO Assist Working Group, 2002) and is presently in the process of being validated in South Africa.

**Secondary outcomes**

**Service Satisfaction (See appendix A):** This will allow the research team to quantitatively determine the quality of services provided and investigate barriers to treatment.

**Analysis**
χ² statistics and t-test will be used to determine whether or not there were any differences between those who completed the follow-up and those that do not. The differences in pre and post scores were evaluated by t-test.

PHASE 2: FOLLOW-UP OF REFERRED PATIENTS TO SPECIALIST SERVICES

Participants
A non-random, purposive sampling technique will be used to select a sample of women who were referred to outside treatment centres (high risk for either depression or substance use). These women will be asked to participate in a focus group or a one-on-one interview. Half of these participants will have actually received services from these facilities while the other half were referred to, but did not access the services.

Procedure
Women who agree to participate in the study will meet the main researchers (KS and PP) at their respective community clinics. The focus groups will be run by the main with the help of a Xhosa-speaking translator if necessary. All participants will provide written informed consent prior to inclusion in the study. All discussions will be recorded and transcribed and translated into English for analysis.

Instruments
Interview schedules will be developed by the researcher to elicit responses from the focus groups and interviews that address the topical areas of interest for this phase. In brief, two open-ended semi-structured interview schedules will be designed to elicit: 1) information pertaining to the women’s experience with the mental health facilities who received treatment from these facilities; and 2) information pertaining to women’s reasons for not accessing services despite being referred due to high risk.

Analysis:
The qualitative data analysis for this study will be conducted using the framework approach (familiarization, identifying a thematic framework, indexing, charting, mapping and interpretation; Pope, Ziebland, & Mays, 2000). Initially, focus group and interview responses will be read for emergent themes, which will then be coded. Care will be taken to ensure the codes accurately captured the respondent’s meaning. A second researcher will be independently code the interviews to ensure validity of the categories. We will use NVivo 7.0, a qualitative software program, for data analysis (QSR international, 2007).

ETHICAL ISSUES
The following ethical issues have been defined:

Training:
Full training will be provided to all staff at the clinics involved in the delivery of the intervention and for the RA responsible for the 3 month follow-up. Clinic staff and the RA will receive training on the importance of maintaining a supportive and encouraging approach and avoiding moral judgement. Training will also stress the primary ethical considerations:

1. Respect for persons (informed consent, protection of anonymity and confidentiality, protection of data from harmful access or harmful use).
2. Do no harm.

**Potential Benefits**
The screening and brief intervention described in the study lays the groundwork for a stepped care model to be implemented in primary care. “High Risk” women will be referred to specialist services to ensure they receive the appropriate care. Lay counsellors and other clinic staff will be provided with a referral list to assist them. Furthermore, if the intervention has an impact on depression and substance use, it will have a direct benefit on the health of the women and their unborn children. It could also lead to the avoidance of costly medical care for a child affected by substance use. Quitting substance use in pregnancy could also lead to permanent cessation.

**Harms of the study**
Participants will be asked to divulge potentially sensitive and upsetting private information and therefore a confidential and supportive atmosphere will thus be provided to all participants. All participants will be provided with a consent form which describes the scope and aims of this study. Any participant who decides not to partake in this study will be reassured that their decision will not bias them or be held against them at any future junction. The lay counsellors and research assistant will be trained appropriately to ensure this is maintained. Additionally, no names will be used in the write-up of any results. Group trends will be reported to relevant authorities and in peer-reviewed journals. Out of this analysis, it is hoped that this model for pregnant women can be replicated in other clinic settings.

**Unassisted consent of adolescents**
According to the Department of Health (2004) *Ethics in Health Research: Principles, Structures and Processes*, adolescents may be capable of consenting themselves to certain types of research participation and that, for particular types of research, it may be desirable that they do so unassisted. It is felt that for the current study, adolescents are unlikely to admit to substance use or answer questions truthfully if their parent/s are present or aware of the nature of the research. It is also felt that once they have become pregnant, adolescents assume many adult responsibilities and are thus capable of understanding and providing informed consent to participate in a study relating to their health and the health of their unborn baby.

**Indicators Proposed for Monitoring & Evaluation**

<table>
<thead>
<tr>
<th>Indicator (including type)</th>
<th>Objective</th>
<th>Data Source</th>
<th>Method of Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Process Indicator</strong>- Number of women attending pre-natal clinic</td>
<td>To determine the number of potential participants in the 5A intervention</td>
<td>Nurse (who takes women’s history)</td>
<td>Screening Tool-number of screening tools completed</td>
</tr>
<tr>
<td><strong>Process Indicator</strong>- Number of women who agree to participate in the 5A intervention and number of subsequent visits</td>
<td>To determine the number of women who actually participate</td>
<td>Lay Counselor</td>
<td>Log book</td>
</tr>
<tr>
<td><strong>Output Indicator</strong>- Number of women who screen positive for depression and/or substance use</td>
<td>To assess the prevalence of substance use disorders amongst women</td>
<td>Nurse/Community worker/Research Assistant</td>
<td>Screening Tool &amp; 3 month follow up interviews</td>
</tr>
</tbody>
</table>


(3) Petersen P. Substance use in the Western Cape among Pregnant Women. 2010. Ref Type: Personal Communication


(11) Stade BC, Bailey C, Dzendoletas D, Sgro M, Dowswell T, Bennett D. Psychological and/or educational interventions for reducing alcohol consumption in pregnant


APPENDIX A: PHQ
### APPENDIX B: ASSIST

The next few questions will ask you about alcohol, tobacco products and other drugs. They will ask you about your experience of using a number of these substances across your lifetime and in the past three months. These substances can be smoked, swallowed, snorted, inhaled, injected or taken in the form of pills. Some of the substances listed may be prescribed by a doctor (like amphetamines, sedatives, pain medications). For this interview, we will not record medications that are used as prescribed by your doctor. While we are also interested in knowing about your use of various illicit drugs.

#### In the past three months, which of the following substances have you used:

<table>
<thead>
<tr>
<th>DRUG TYPE</th>
<th>YES</th>
<th>NO</th>
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<tbody>
<tr>
<td>Alcoholic Beverages: <em>spirit coolers, home-brewed beer or other alcohol drinks</em></td>
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<td>Mandrax &amp; Dagga: <em>buttons, wityp</em></td>
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<tr>
<td>Cocaine: <em>rocks, coke, crack</em></td>
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</tbody>
</table>
Amphetamine type stimulants: *Tik, speed, crystal meth*

Opiods: *heroin, unga, morphine, methadone, buprenorphine*

Hallucinogens (LSC, acid, magic mushrooms)

Inhalents: *other legal substances like glue, petrol, thinners, aerosols or other solutions to get high or feel better*

Prescription drugs: *any prescribed or over–the-counter medication in excess of the directions or for non–medical reasons, like getting high or relaxing*

Probe: If “No” to all items, stop interview.

2. In the past three months, how often have you used the substances mentioned above (First Drug, Second Drug)

<table>
<thead>
<tr>
<th>DRUG TYPE</th>
<th>Never</th>
<th>Once or Twice</th>
<th>Monthly</th>
<th>Weekly</th>
<th>Daily or Almost Daily</th>
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<tr>
<td>Alcoholic Beverages</td>
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<tr>
<td>Dagga</td>
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<td>Mandrax &amp; Dagga</td>
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<td>Amphetamine type stimulants</td>
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<td>Opiods</td>
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<td>Hallucinogens</td>
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If “Never” to all items in question 2 skip to Question 6

3. During the past three months, how often have you had a strong desire or urge to use (First Drug, Second Drug)

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<tr>
<th>DRUG TYPE</th>
<th>Never</th>
<th>Once or Twice</th>
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4. During the past three months, how often has your drug use led to health, social, legal or financial problems?

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<thead>
<tr>
<th>DRUG TYPE</th>
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5. During the past three months, how often have you failed to do what was normally expected of you because of your drug use?

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</table>

6. Has a friend or relative or anyone else ever expressed concern about your use of (First Drug, Second Drug)

<table>
<thead>
<tr>
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</table>
7. Have you ever tried and failed to control, cut down or stop using (First Drug, Second Drug)

<table>
<thead>
<tr>
<th>DRUG TYPE</th>
<th>No, Never</th>
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<tr>
<td>Amphetamine type stimulants</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Opiods</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Hallucinogens</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Inhalants</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Prescription drugs</td>
<td>0</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

TOTAL SCORES (For each substance add up the scores received from questions 2-7 inclusive. Do NOT include scores for question 1. For example a score for dagga would be calculated as: Q2+Q3+Q4+Q5+Q6+Q7)

<table>
<thead>
<tr>
<th>DRUG TYPE</th>
<th>Total Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcoholic Beverages</td>
<td></td>
</tr>
<tr>
<td>Dagga</td>
<td></td>
</tr>
<tr>
<td>Mandrax &amp; Dagga</td>
<td></td>
</tr>
<tr>
<td>Cocaine</td>
<td></td>
</tr>
<tr>
<td>Amphetamine type stimulants</td>
<td></td>
</tr>
<tr>
<td>Opiods</td>
<td></td>
</tr>
<tr>
<td>Hallucinogens</td>
<td></td>
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<tr>
<td>Inhalants</td>
<td></td>
</tr>
<tr>
<td>Prescription drugs</td>
<td></td>
</tr>
</tbody>
</table>

APPENDIX C (Follow-up Questions)
You may remember that when you first came to the clinic for your pre-natal visit, you met with a lay counsellor to discuss a number of issues such as your health, your lifestyle and the health and well-being of your baby. We would like to ask you what you honestly thought of the information and advice given to you by the lay counsellor and your experience at the clinic.

1. Did you meet with the lay counselor at your first visit? [ ] Yes  [ ] No
1b. If yes, how many times did you meet with the lay counselor? _________

2. How many times did you meet with the lay counsellor? _________

3. Did you want to meet with the lay counsellor more than you did?  □ Yes  □ No

3b. If Yes, what stopped you from meeting with the lay counsellor?
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

3c. If you only met with the lay counsellor at the first visit, what were the reasons for not seeing her again? (probe- didn’t think that you needed help, she was too busy etc)
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

4. Did the lay counselor offer you any materials?  □ Yes  □ No

4b. If yes, Did you find these materials useful? □ Yes  □ A little bit □ No

5. Overall, how would you rate the services provided to you by the lay counselor?
□ Excellent □ Good □ Average □ Poor □ Bad

6. Do you feel that you received the kind of service you wanted? □ Yes □ Mostly □ No

7. Do you feel that the lay counsellor met your needs? □ Yes □ Mostly □ No

8. Did the lay counsellor refer you to a treatment centre for specialized treatment?
□ Yes  □ No

8b. If yes, where were you referred to? ________________________

8c. Did you go and get help from the treatment centre? □ Yes □ No

8d. In no, Why not?
___________________________________________________________________________
___________________________________________________________________________
___________________________________________________________________________

8e. If yes, do you feel that treatment centre met your needs?
□ Yes □ Mostly □ No

8f. If yes, overall, how satisfied were you with the services provided to you by treatment center.
□ Very Satisfied □ Mostly Satisfied □ A little Satisfied □ Not Satisfied at All